

## Curriculum vitae

Nume: **Crina SOCACI**

Nume anterior: **Cismaș**

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**Current position:** *Senior Researcher II*, INCDTIM Cluj-Napoca, Romania

Joint affiliation: *Junior Researcher III*, Faculty of Chemistry and Chemical Engineering,  
Babes-Bolyai University, Cluj-Napoca

### **Education:**

**2000-2004:** Ph.-D. Candidate, **Babes-Bolyai University Cluj-Napoca**, Ro - Thesis Title: "Synthesis and Structural Analysis of Some New Derivatives with Saturated Six-membered Heterocycles and the Synthesis of Some New Amphiphilic Purine Derivatives". Supervisor: *Prof. Dr. Ion Grosu* (PhD title received on 07.02.2005)

**1999-2000:** Master of Science in *Heterocyclic Chemistry*, Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca, Scientific supervisor *Prof. Dr. Ion Grosu*.

**1995-1999:** Bachelor of Science in *Chemistry*, Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca, Romania.

### **Work experience:**

**01/05/2013-present: Senior Researcher II** at National Institute for Research and Development for Isotopic and Molecular Technologies (INCDTIM), Cluj-Napoca in the field of magnetic nanoparticles till February 2014. Since 02/2014 she joined the ***Carbon Nanostructures*** group working in the field of graphene synthesis.

**01/01/2011-01/05/2013: Junior Researcher III** at National Institute for Research and Development for Isotopic and Molecular Technologies (INCDTIM), Cluj-Napoca in the field of magnetic nanoparticles functionalization as a member of the project: "Advanced Methods for the synthesis of hybrid materials" (Grant POSCCE, 536, project director: prof. Juergen Liebscher).

**01/10/2008-present: Junior Researcher III** at Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca. She was ***principal investigator***: "Design, formation and properties of new supramolecular assemblies by hydrogen bonding through nucleobases" (Grant PNII Idei2358/2009).

**16/10/2006-01/10/2008: Postdoctoral researcher** at Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca. She was *project responsible*: “Design, synthesis, structural analysis and supramolecular properties of some macrocyclic compounds with triarylmethane, triarylphosphoric and triarylaminic units” (Grant PD8, project director: prof. Dr. Ion Grosu)

**06/01/2005-06/07/2006: Marie Curie postdoctoral researcher** at University of Athens, Greece (Prof. Thanasis Gimisis group). The participation in the FP6 Research Training Network: Clustered Oxidative DNA Damage gave the projects leader the opportunity to present her results in two network meetings and to attend other two after she finished her contract at Athens University. These meetings were interdisciplinary (synthetic organic chemistry in DNA field, photo-studies, radical formation, biological consequences) and she established important contacts with specialists in this field.

**Stages abroad:**

**01/05/2008-01/06/2008:** invited researcher, Texas University at Austin (Prof. Jonathan Sessler), USA.

**01/06/2006-04/07/2006:** secondment research stage in the partner group of Prof. Chrysostomos Chatgililoglu, ISOF-CNR, Bologna, Italy.

**15/06/ 2001-15/08/2001:** Mondial Bank - scholarship for Overseas Graduate Students at Humboldt University of Berlin (Prof. Juergen Liebscher), Germany.

**15/04/1998-15/09/1998:** student exchange stage at Fachhochschule Merseburg, Germany, financed by Ministry for Culture Sachsen-Anhalt and Fachhochschule Merseburg.

**Teaching experience:**

Implementation of **organic chemistry laboratory courses** for 2<sup>nd</sup> and 3<sup>rd</sup> year students at Faculty for Chemistry and Chemical Engineering, Babes-Bolyai University Cluj-Napoca (1999-2004).

**Areas of scientific expertise:**

Synthetic organic chemistry; Synthesis of nanomaterials - core-shell magnetic nanoparticles and lately graphene-based nanomaterials; Supramolecular Chemistry; Macrocycles; NMR Applications; Structural characterization of nanomaterials – FT-IR, UV-Vis; Oxidative DNA damage.

**Language skills**

Fluent in English and Romanian, Good knowledge of German and Basic of Italian.

**Selected papers:**

- 1.M. Coroş, F. Pogăcean, M.-C. Roşu, C. Socaci, G. Borodi, L. Mageruşan, A. R. Biriş, S. Pruneanu, Simple and cost-effective synthesis of graphene by electrochemical exfoliation of graphite rods *RSC Adv.* **2016**, 6, 2651-2661
- 2.C. Socaci\*, F. Pogăcean, A. R. Biriş, M. Coroş, M.-C. Roşu, L. Mageruşan, G. Katona, S. Pruneanu, Graphene oxide vs. reduced graphene oxide as carbon support in porphyrin peroxidase biomimetic nanomaterials, *Talanta* **2016**, 148,511-517
- 3.D. Olteanu, A. Filip, C. Socaci, A. R. Biriş, X. Filip, M. Coros, M. C. Rosu,F. Pogacean, C. Alb, I. Baldea, P. i Bolfa, S. Pruneanu, Cytotoxicity assessment of graphene-based nanomaterials on human dental follicle stem cells, *Coll. Surfaces B* **2015**, 136, 791-798
4. A. Diac, M. Focsan, C. Socaci, A.-M. Gabudean, C. Farcau, D. Maniu, E. Vasile, A. Terec, L. M. Veca, S. Astilean Covalent conjugation of carbon dots with Rhodamine B and assessment of their photophysical properties *RSC Adv* **2015**, 5, 77662-77669.
5. L. Pop, M.L. Golban, N. Hadade, C. Socaci, I. Grosu, CuAAC synthesis of tetragonal building blocks decorated with nucleobases, *Synthesis* **2015**, 47, 2799-2804.
6. R.-I. Stefan-van Staden, L. A. Gugoasa, C. Socaci, A. R. Biriş, New nanocomposite-graphene pastes based stochastic microsensors, *RSC Adv* **2015**, 5, 66185-66191.
7. C. Socaci\*, L. Magerusan, R. Turcu, J. Liebscher, Developing Novel Strategies for the Functionalization of Core-shell Magnetic Nanoparticles with Folic Acid Derivatives, *Mat. Chem. Phys.* **2015**, 162, 131-139.
8. F. Pogacean, C. Socaci\*, S.Pruneanu,\* A.R. Biriş, M. Coros, L.Magerusan, G. Katona, R. Turcu, G. Borodi, Graphene based nanomaterials as chemical sensors for hydrogen peroxide - a comparison study of their intrinsic peroxidase catalytic behavior, *Sens. Actuat. B: Chemical* **2015**, 213, 474-483.
9. S. Pruneanu, A. R. Biriş, F. Pogăcean, C. Socaci, M. Coroş, M. Roşu, F. Watanabe, A. S. Biriş, The influence of uric and ascorbic acid on the electrochemical detection of dopamine using graphene-modified electrodes, *Electrochimica Acta* **2015**, 154, 197-204.
10. M.L. Golban, V. Pascanu, N.D. Hadade, L. Pop, C. Socaci\*, I. Grosu\*, Novel Nucleobase-Decorated Tripodands: Synthesis and Supramolecular Properties, *Synthesis* **2014**, 46, 1229.

11. V. Pascanu, M. Circu, C. Socaci\*, A. Terec, A. Soran, I. Grosu\*, Synthesis of cryptands with di-yne units via acetylenic homocoupling reactions of C-3 tripodands, *Tetrahedron Lett.* **2013**, *54*, 6133-6136.
12. C. Socaci, M. Rybka, L. Magerusan, A. Nan, R. Turcu, J. Liebscher, Magnetite nanoparticles coated with alkyne-containing polyacrylates for click chemistry, *J. Nanopart. Res.* **2013**, *15*, 1747.
13. F. Pop, C. Socaci, A. Terec, E. Condamine, R. A. Varga, C. I. Rat, J. Roncali, I. Grosu, Cryptands and bismacrocycles with cyanuric and isocyanuric units: synthesis and structural investigations, *Tetrahedron* **2012**, *68*, 8581-8588.
14. M. Circu, V. Pascanu, A. Soran, B. Braun, A. Terec, C. Socaci\*, I. Grosu\*, Solid state supramolecular assemblies of triol podands through H-bonds, *CrystEngComm*, **2012**, *14*, 632-639.
15. C. Cismas, N. Vanthuyne, R. A. Varga, E. Bogdan, C. Roussel, I. Grosu Geometric Enantiomerism in Cyclic Compounds Series: Chiral Dibrominated 1,3-Dioxanes, *Chirality* **2011**, *23*, 167-171.
16. F. Piron, C. Oprea, C. Cismas\*, A. Terec, J. Roncali, Ion Grosu\* Synthesis of Podands with Cyanurate or Isocyanurate Cores and Terminal Triple Bonds *Synthesis* **2010**, *10*, 1639-1644.
17. P. Kaloudis, M. D'Angelantonio, M. Guerra, M. Spadafora, C. Cismas, T. Gimisis, Q.G. Mulazzani, C. Chatgililoglu Comparison of Isoelectronic 8-HO-G and 8-NH<sub>2</sub>-G Derivatives in Redox Processes *J. Am. Chem. Soc.* **2009**, *143*, 15895-15902.
18. F. Piron, N. Vanthuyne, B. Joulin, J.-V. Naubron, C. Cismas, A. Terec, R. A. Varga, C. Roussel, J. Roncali, I. Grosu Synthesis, Structural Analysis, and Chiral Investigation of Some Atropisomers with EE-Tetrahalo-1,3-butadiene Core *J. Org. Chem.* **2009**, *74*, 9062-9070.
19. F. Piron, C. Cismas\*, A. Terec, J. Roncali, I. Grosu\* Cryptands by acetylenic coupling reactions – synthesis, structure and properties *Mini-Rev. Org. Chem.* **2008**, *6*, 78-85.
20. C. Cismas, T. Gimisis, exo-N-[2-(4-Azido-2,3,5,6-tetrafluorobenzamido)ethyl]-dC: a novel intermediate in the synthesis of dCTP derivatives for photoaffinity labelling *Tetrahedron Lett.* **2008**, *49*, 1336-1339.
21. T. Gimisis, C. Cismas, Isolation, Characterization and Independent Synthesis of Guanosine Oxidation Products” *Eur. J. Org. Chem.* **2006**, *6*, 1351-1378.

22. C. Cismaş, I. Grosu, G. Plé, E. Condamine, Y. Ramondenc, L. Toupet, I. Silaghi-Dumitrescu, G. Nemeş, A. Terec, L. Muntean, Synthesis and stereochemistry of new bis(1,3-oxathiane-2-yl) derivatives: epimerisation and chair-twist equilibria *Structural Chemistry* **2005**, *16*, 369-377.
23. H. A. Scheidt, W. Flasche, C. Cismaş, M. Rost, A. Herrmann, J. Liebscher, D. Huster, Design and application of lipophilic nucleosides as building blocks to obtain highly functional biological surfaces *J. Phys. Chem. B* **2004**, *108*, 16279-1628.
24. W. Flasche, C. Cismaş, A. Herrmann, J. Liebscher, Lipophilic Nucleosides by Sonogashira Coupling *Synthesis* **2004**, 2335-2341.
25. M. Stuparu, I. Grosu, L. Muntean, G. Ple, C. Cismaş, A. Terec, A. Nan, S. Mager, Synthesis and Stereochemistry of Some New 1,3-Oxathiane Derivatives *Monatshefte fuer Chemie* **2004**, *135*, 89-96.